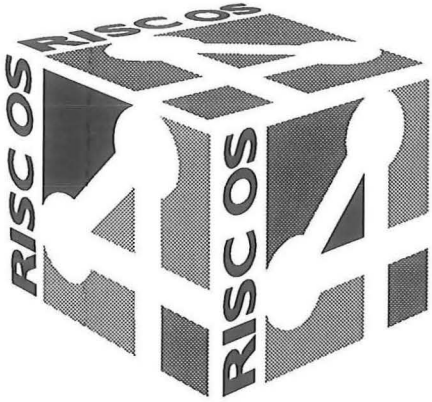
RISC OS 4

Operating System Upgrade
For A7000, A7000+ and Risc PC Computers

Application Note and ROM Fitting Instructions



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NB The RISC OS 4 Installer and Upgrader are supplied on CD.

If you do not have a CD-ROM drive then please contact RISCOS Ltd to exchange the CD for a floppy disc version.

The files are also available on our Web Site at http://www.riscos.com/ or contact your nearest Authorised Installer who will be able to install them for you.

Any floppy disc distribution may not include all the bonus items on the CD.

It is important that you follow the Software Installation Instructions BEFORE fitting your RISC OS 4 ROMs

Important Notice

Although every effort has been made to ensure that upgrading to RISC OS 4 is as painless as possible, it is necessarily a more complex task than the installation of a new software application. This is because your computer's Operating System (RISC OS) is supplied on ROMs inside the computer. These are the computer chips supplied alongside this manual in your RISC OS 4 upgrade pack.

If you have never looked inside your computer's case, and are not totally familiar with the way your system is set up and boots up, you may wish to have a RISC OS 4 Authorised Installer fit your upgrade for you.

The centre may be a traditional Acorn RISC OS dealership, or an approved User Group with the necessary skills. All Authorised Installers have been approved by RISCOS Ltd, so your machine will be in good hands. Please note that most Authorised Installers will charge a fitting fee for the time involved, and you should confirm this with the installer prior to fitting.

For details of your nearest Installation Centre, please see the web site: `http://www.riscos.com/` or contact RISCOS Ltd by phone.

Please note that RISC OS 4 is supplied only for use on Acorn Risc PC and A7000 computers. **Do not** attempt to use it or install it on any other make or model of computer, be it Acorn or any other brand.

VERY IMPORTANT NOTICE

Install the new software BEFORE fitting your RISC OS 4 ROMs

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QUICK INSTALLATION ROUTINE

1) If you have never upgraded your RISC OS computer's operating system before ***read and follow this manual***

2) If you want to be safe ***read this manual***

3) Uninstall any protected software applications

4) Use *Checkmap to check your hard disc for errors

5) Install the RISC OS 4 software from the CD using current version of RISC OS.

6) Switch the machine OFF.

7) Remove the old ROMs and keep safe.

8) Install the RISC OS 4 ROMs

9) Switch ON with DELETE key held down.

10) Make sure everything is working correctly

    You will need to reconfigure number of CDROM drives, set screen resolution, monitor types etc

11) DON'T just copy your old Boot sequence back over the new !Boot as much of it may not work! Test each application you want to run and see if it needs extra modules etc and then re-install just the bits you need.

12) Browse through the CD and see if there are other items you want to install.

If you are then going to move over to use the new F + format :-

1) Backup all your data

2) Reformat your current hard disc to the new format, or better still buy a new large hard drive to take advantage of the new features of RISC OS 4 and copy the old data onto the new drive and keep the old drive somewhere safe as a backup!

3) Restore data and reboot

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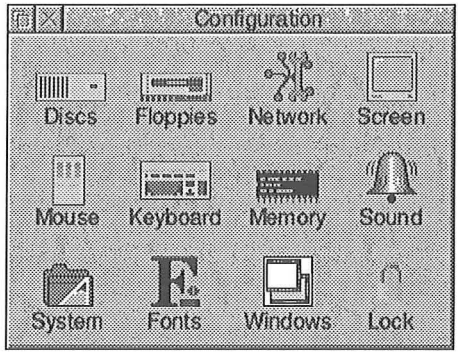
Software Installation Instructions

This section shows you how to install the RISC OS 4 disc-based software onto your computer. You will install a new !Boot sequence, configuration tool and new applications software.

Before you begin

The very first thing you should do, before fitting or installing anything, is to record how your computer is set up. As part of the upgrade, you will be required to completely reset your machine, so it is important to write down how your machine was set up before the upgrade as you will need to refer to this later.

The easiest way to record your main settings is to double click on the **!Boot** icon on your hard disc (click on your hard disc icon on the iconbar along the bottom of your screen). This will open the Configure window.



Click on each of the buttons in turn, and record the settings carefully. The windows used to set these options in RISC OS 4 are slightly different, so you may want to write down what the option *is*, rather than its position in the window.

If you have a network card fitted, you should take careful note of all the settings in the Network section. This manual does NOT include detailed instructions for re-configuring your network or internet configuration and you should refer your original manuals for further details.

Please note that if you have installed any extra expansion cards (not PC cards) the settings for these cards will not be shown. For a full list of all configuration options, including those for expansion cards carry out the following instructions (only recommended for more technical users):

1) From the Desktop, press F12 to get to the command line. A * will appear at the bottom of your screen
2) Insert a formatted floppy disc into your floppy drive then type `*Spool ADFS::0.$.Config` and press return.

   If this comes up with an error message such as `Disc drive not known`, try `*Spool Config` and press return.
3) Type `*Status` and press return. A list of messages will flash by.
4) Type `*Spool` and press return.
5) Press return again to get back to the Desktop. Click on your floppy disc icon on the iconbar. You should see a file called "Config".
6) Press the Menu button over the file, go off `File 'Config'` and then off `Set Type` and enter `Text`
7) Print this out, and you will have a hard copy of your system setup.

If you use 3rd party hard disc or CD Rom interface cards such as SCSI interfaces or IDE cards, you should copy the control software (eg. !SCSIMgr, !PowerMgr etc.) onto the floppy disc alongside the Config file. You will then have all the tools you need to reconfigure your computer readily available later.

Original Cumana / Acorn CDROM drives

If you have an early Acorn or Cumana CDROM drive then please refer to Appendix 1 for important configuration information.

Uninstalling existing software

Certain applications use a key disc or other copy protection system which will be upset by the RISC OS 4 installation! In order to prevent problems later, you must uninstall these programs first.

Uninstalling a program normally requires you to have your original program disc to hand. In most cases you will need to re-run the install program on the first floppy disc, and drag the program from your hard disc to the installer. **However, please refer to the instructions supplied with the application for the correct uninstall procedure in each case.**

Known applications which require uninstallation are as follows:

Any member of the Sibelius family

Datapower 1 or 2

DA's Picture

Most Clares applications (Rhapsody 4 and Compo are known, but most Clares applications install themselves in a similar way).

Ovation Pro

Killer

To be safe, we recommend checking the instructions supplied with all the applications which you use regularly, to see if they require uninstalling. **If you aren't sure, please contact the company which published your application.**

There are a small number of applications which may cause problems under RISC OS 4. You will want to **remove these** from your computer altogether:

CD Fast 2 (Eesox) isn't compatible, and can cause Abort on Data Transfer errors when accessing your CD drive.

LongFiles 2 should NOT be used with RISC OS 4 if you have any new format drives in your machine. A new version Longfiles3 is available from Jason Tribbecks Web site http://www.tribbeck.com/

Checking your disc for errors

The last thing to do before actually starting the !Install utility is to make sure that there are no faults on your hard disc. If a directory has become broken, then the upgrade process may fail or get stuck whilst attempting to (re)move old versions.

The easiest way to check for problems is as follows:

1) Press F12 to get to the * prompt at the bottom of your screen

2) Type `*Checkmap`

If you have any other hard discs or other filing systems:

3) Type `*<insert filing system name>` (eg. *IDEFS)

4) Type `*Mount <drive number>` to select the drive number

5) Enter `*Checkmap` to check that drive for errors.

If `Checkmap` finds problems you will need to fix the errors before proceeding. In some cases, Checkmap itself will be able to help, but this is not always the case. If problems persist either contact an Authorised Installation Centre, or try the powerful (shareware) `FSCK` repair tool or one of the commercial tools available such as Disc Rescue from Look Systems which is backed up by full technical support.

You should repeat the `*Checkmap` command afterwards to confirm that any repairs have worked.

Installing the RISC OS 4 Disc Image

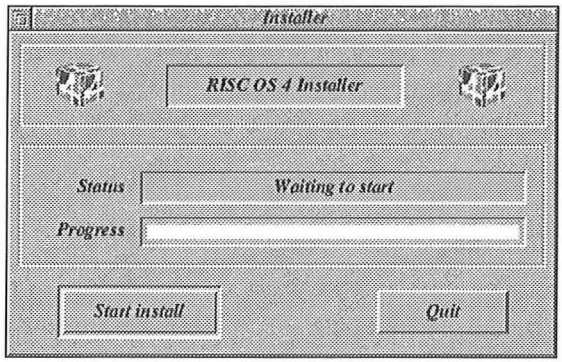
Now that you have recorded your system settings, and uninstalled any applications, you are ready to begin upgrading the disc-based component of your computer's Operating System.

This procedure should be carried out **before** you install the RISC OS 4 ROMs. In addition, we strongly recommend getting your system up and running properly when you eventually install the ROMs, before taking the final step of reformatting your hard disc to the improved RISC OS 4 format.

This progression is important because the more things you change at once, the greater the likelihood of a problem being introduced. By working through the upgrade, checking and testing at each stage, you can deal with any difficulties more easily.

To begin installing the disc-based components of RISC OS 4, place the RISC OS 4 CD in your CD drive, and click on the CD icon to the far left of the iconbar along the bottom of your screen.

A window will open showing the contents of the CD. Double click on the !Install icon to begin installing the disc components onto your computer.



To start the process, click the Start install button. You will be prompted to make sure that you have uninstalled certain applications prior to the process taking place. This information is a repeat of that recorded on page 5 earlier - it's in the installer to warn eager users who don't read manuals!

If you are happy that you have uninstalled relevant applications, click on the "Continue with installation button".

If there is insufficient disc space to install the new !Boot sequence **and** store your old version as a backup, you will be warned, and given the opportunity to backup onto a different disc/drive.

If you have a very large hard-drive it is possible that the installer may incorrectly report that you have insufficient free space. If this occurs and you are confident that your drive has enough free space then just ignore the warning and proceed with the installation.

As part of the backup process, a list of files which appear to be different (ie. changed) from the expected !Boot for your operating system will be generated. This may help when restoring your settings later. The file is called **DiffFile** and is in the root directory of your main hard drive.

Assuming that all is correct, the installer will back up your existing !Boot into a directory called **InactivRes** and install the new one and associated disc-based applications and tools. You will see a percentage completed bar indicating progress through the install process.

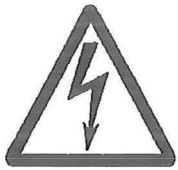
Once the installation is complete, you should reset your machine before continuing with the RISC OS 4 upgrade procedure.

Important: Do not delete the **InactivRes** directory once installation is complete, since it will then contain your old resources, some of which you may want to reactivate later.

Hardware installation instructions

This section explains how to install the new RISC OS ROMs.

Disassembling the computer



Before removing the top plastic cover of the computer

i) switch off the computer
ii) remove the power lead from the wall socket.

Do not reconnect the power lead to the wall socket until you have replaced the cover of the computer.

Do not make any adjustments inside the computer while the power lead is connected to the wall socket

1 Remove the top cover and any middle slices (Risc PC) or top cover and the floppy drive and hard disc tray (A7000) of the computer (follow the instructions in *Opening the Computer* in the Welcome Guide supplied with your computer).

2 *(Optional)* Connect an anti-static wrist strap to a suitable earthed connector and fit the loop of the strap securely around your wrist.

NB Don't just clip the anti-static cable to the computer case as it is not grounded when the power connector is not plugged into the computer and the wall mains socket.

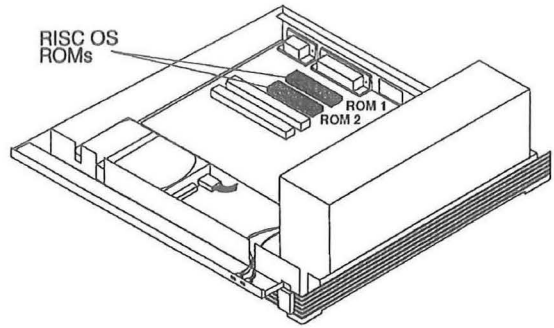
3 Remove any Acorn or 3rd party expansion cards and Network Interface cards (NIC's) by following the instructions supplied with the cards.

Note: For the purposes of testing, we recommend that you don't refit expansion cards until you are sure your computer is functioning properly without them.

Fitting the ROM upgrade (Risc PC)

To fit the new ROMS:

1 Remove the existing RISC OS ROMs from their sockets on the main pcb (use a ROM extractor tool, if you have one) or a small flat bladed screwdriver:



2 Take the new ROMs out of their packaging. Try not to touch the connectors with your fingers (as chips can be damaged by static electricity) or to drop the upgrade and damage the pins.

3 Check that the legs on the ROMs are not bent or damaged and are aligned at right angles to the ROM package before attempting to insert them.

4 Fit the new ROMs, noting that the end of the ROM bearing a notch or other distinguishing mark must point to the left hand edge of the computer's case, looking from the front.

Fit the ROM marked ROM 1 into slot labelled 'ROM 1', and fit ROM 2 into the slot labelled 'ROM 2':

NB The label on the ROM will read the right way round when viewed from the front of the machine.

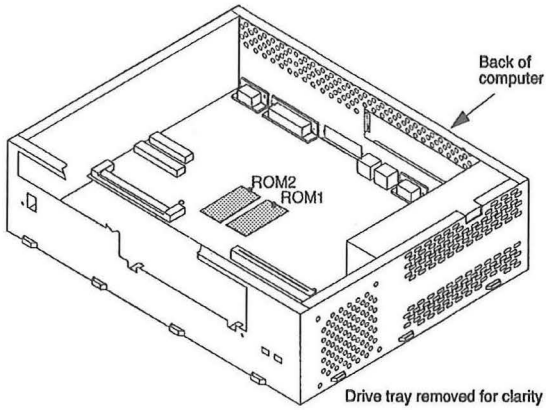
Fitting the ROM upgrade (A7000)

To fit the new ROMS:

1 Remove the existing RISC OS ROMs from their sockets on the main pcb (use a ROM extractor tool, if you have one) or a small flat bladed screwdriver:

2 Take the new Flash ROMs out of their packaging. Be careful not to touch the connectors with your fingers (as chips can be damaged by static electricity) or to drop the upgrade and damage the pins.

3 Check that the legs on the ROMs are not bent or damaged and are aligned at right angles to the ROM package before attempting to insert them.



4 Fit the new ROMs, noting that the end of the ROM bearing a notch or other distinguishing mark point to the back of the computer's case, looking from the front.

The ROMs have different part numbers printed on them. Fit the ROM marked ROM 1 into slot labelled 'ROM 1', and fit ROM 2 into the slot labelled 'ROM 2':

Reassembling the computer

Replace the middle section of the computer, and any other "slices" which you removed when dismantling your machine, as described in the Welcome guide supplied with your computer.

Take care when plugging any disc drives back in - the coloured (pink or red) edge on the cables should be matched with pin 1 on the connector to the drive. On most modern drives this will mean that the striped edge of the cable will be on the end nearest the power connector.

Once you have reconnected any drives, put back any podules which you regard as essential. For example, if you only use SCSI hard discs, you might want to put your SCSI interface back in. We recommend that you leave any "non-essential" podules out until you are happy that your system is working correctly. Finally, put the lid back on your computer.

Restarting the computer

You are now going to restart your computer, and reset it back to its factory settings, as the internal configuration is rather different under RISC OS 4.

Turn on your monitor first and then press and hold down the "Delete" key down - the key below the button marked "Insert".

Now, turn on the computer, remembering to keep the Delete key held down. Keep the key pressed until your computer displays the Desktop.

It is quite possible (especially if you aren't using any hard discs on the standard on-board IDE interface) that the computer will pause for up to 30 seconds before it reaches the "desktop banner" and then for another 30 seconds after the banner is displayed. This simply means that it is looking for a disc it cannot find.

Most normal systems will be booting off the first hard disc connected to the standard IDE interface in the machine (if you don't know otherwise, this will almost certainly be the case), in which case your machine should be ready for reconfiguration, otherwise read on...

Long Delays on Boot up

RISC OS 4 is much faster at booting up than previous versions and should on average take 20 seconds or less.

This is considerably faster than PC's or Mac's which can often take a few minutes to start up!

If your computer paused for a long time (say 30 seconds) when rebooting, then it is likely that you need to alter the hard disc settings for your machine. You will need the list of configuration commands printed earlier.

1) Once you have reached the desktop Press F12 and you will see a * prompt at the bottom of the screen.

2) With reference to your print out, type

`*Configure FileSystem <insert value from sheet>`
and press return. The value you type in should be exactly as printed out previously.

3) You may have to set up the relevant number of discs, and alter the number of standard `IDEDiscs`. Repeat step 2 but `*Configure` these other values based on your printed sheet.

Once you think you are ready, press Return to go back to the desktop, press Ctrl-Shift-F12 to shut down your computer, and finally click the "Restart" button.

All being well, your computer should boot correctly into the Desktop.

Non IDE CD-ROM drives

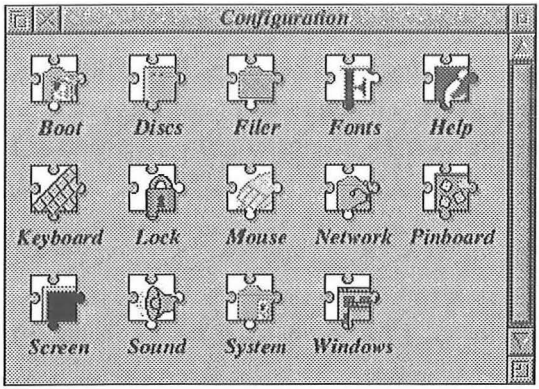
If your machine has a SCSI CD-ROM or IDE CD-ROM connected to a third party IDE card and you don't have any CD-ROM drives connected to the internal IDE interface you will need to *unplug CDFSSoftATAPI from the command line to prevent the machine waiting 30 seconds each time the machine starts up for a non-existent drive.

If any other problems occur, contact an Authorised Installer or Dealer.

Reconfiguring your system

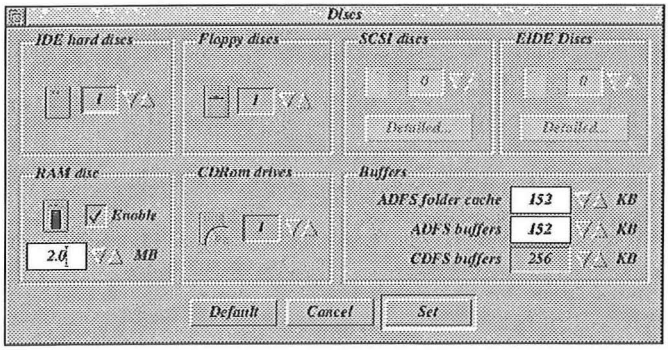
By now, you should have your machine running the desktop, and you should be able to click on your hard disc icon on the iconbar to open a window showing the new !Boot icon:

Double click on this to open the System Configuration window.



Several of these options are new, but you can leave those until later.

Right now, open the Discs setup window and configure the required number of standard IDE hard discs, CD drives and any RAM disc that you require. In addition you may have a supported hard disc interface podule which can be configured with the SCSI or EIDE panels.



You will also want to reset your Screen settings using one of the supplied monitor definition files. Don't worry if the one you used before isn't listed, you can add it back in later. For now, one of the standard set should allow you to access higher screen resolutions to make using the machine easier.

Network settings are another area which you will probably want to reset fairly quickly, and this should operate much as before.

Reinstalling old settings

This section should be undertaken with caution.

There may be some settings and utilities which are not RISC OS 4 compliant, so we strongly recommend that you reboot your machine after adding/removing each component from your old Boot sequence just to make sure all is well.

If you are not confident with your machine, there is much to be said for simply ignoring all your old startup files and beginning from scratch, but there may be things which you want to bring back.

When you installed the new disc image earlier, your old !Boot sequence was placed in an "**InactivRes**" folder.

To open up that !Boot directory or the main one on your hard disc, remember to hold down the shift key when double clicking on it.

When putting things back into your boot sequence, you may wish to refer to the Differences file (**DiffFile**) created when you installed the disc image.

Note that not everything you had before is still needed.

In particular you do NOT need to re-install old Wimp, !!ROMPatch or ROMPatch directories.

Above all, exercise caution, and do not change anything at this stage which you are unsure of.

Refer to Appendix 2 for common problems that occur when you wrongly edit or incorrectly install files.

You should note that some applications will require re-installing from their original floppy discs before they will work correctly (eg. Computer Concepts programs such as the Impression family and Artworks), even if they did not need uninstalling first.

Other applications which will need to be re-installed include

Prophet - Accounts packages

Fabis - font and graphics utilities.

Moving over to the new RISC OS 4 hard disc format

This is the next step in your system upgrade. We would strongly recommend getting used to RISC OS 4 as your system stands before attempting this section. Make sure that it is working as you would expect.

All features of RISC OS 4 except for the long filenames and large numbers of files per directory options, will work correctly without requiring that your hard disc be reformatted.

Upgrading to the new RISC OS 4 hard disc format (F+) has the following advantages and disadvantages:

Advantages:

- Use of long filenames (up to 255 characters)
- A much larger number of files per folder (several thousand)
- The new format is more efficient, so you will probably find up to 30-40% more free space after you copy your data back onto the same disc!

Limitations:

- A very small number of applications may fail on new format discs.

  You can test this by running them from a new format floppy disc, or the RAM disc which is now "new format" too.
- Some applications (eg. Impression) cannot take advantage of long filenames as they limit filenames to 10 characters
- It involves re-formatting your hard disc - a fairly major process.

Once you decide that you are confident enough to move over to the new format hard disc, it's time to follow the next set of instructions...

Before you begin

Back up your data.

Back up your data again!

It doesn't really matter what you back up your data onto - another hard disc or a removable drive such as the Iomega Zip would currently be good options.

If you have the opportunity, and especially if you only have a small hard disc at present, it may be best to start afresh with a new disc and format that instead, as you will then be able to copy your old data across rapidly and without fuss. New hard discs of around 6GB can be obtained very cheaply and it will also make your local dealer happy!

Uninstall applications

Just as you uninstalled some applications prior to installing the RISC OS 4 disc image and ROMs, you should uninstall them prior to reformatting your hard disc. This will stop anything unfortunate happening to the applications.

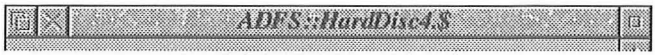
Once you are happy that you have completed the above steps, you are ready to begin reformatting your hard disc.

Reformatting

To begin formatting your drive, run the new `!HForm` application from the Utilities folder on your hard disc.

If you are reformatting your primary drive, it is a good idea to copy `!HForm` onto a floppy disc and run it from there, as once the disc is re-formatted, you might not easily be able to get at !HForm should you need it.

`!HForm` is only used to reformat IDE hard drives connected to the internal IDE interface in your computer. i.e any disc which shows the letters ADFS: in its title bar when you access it, and which isn't a floppy disc eg.



If you have SCSI hard drives or a third party IDE Interface you will need to contact the supplier to obtain an updated formatter to give you the new RISC OS 4 disc format on those drives.

Once you run HForm the screen will change to single tasking display.

You will be prompted to specify which drive number you are formatting: 4 to 7. Your main drive is normally 4, your second hard disc is normally 5 etc.

The software will give you details of the make and model of the selected drive. **If you have selected the wrong drive, or want to quit the program at any point just press the ESCAPE (Esc) key to cancel the program and return to the desktop.**

`!HForm` will ask you a variety of technical questions, and provide you with default values for each. With modern drives, the defaults are normally correct, provided that you wish to use all the available space on the disc. There may be occasions (for example, installing a Unix variant alongside RISC OS) when you don't want to use all the space on the disc, but these are rare, and you should consult the appropriate documentation for more information.

Details of the questions follow...

HForm Questions

After the disc has been identified, if it has been formatted already, you will be asked: `Do you wish to retain this shape?`

We recommend entering `N` and pressing return so that you have the opportunity to set things correctly.

You will then be shown a list of "known" drives. It is unlikely that you will be formatting one of these drives, so press: `9 for other drives.`

`!HForm` will now ask you to confirm various details about your drive. Default suggestions will be made based on the information read from the drive:

```
Sectors per track:

Heads:

Cylinders:

Drive Parameter init flag:

Drive LBA flag:

Parking Cylinder:
```

Unless you have a particular reason (eg. you are installing Linux alongside RISC OS) why you don't want to use all the available space, just press Return to accept the suggested value.

If you have a large hard drive (greater than 8GB) please check that you are using !HForm version 2.51 or later, as earlier versions can only recognise half the correct disc space on some drives. If you find that this happens to you then you should download the latest version should our website.

The one parameter you can always calculate for yourself is the Parking Cylinder which should be one less than the number of Cylinders.

You will now be asked questions related to marking out bad sectors on the disc. It is extremely unlikely that this will be necessary. Press `A` to move on without altering the Defect List.

When asked if you wish to `Format` or just `Initialise` the disc, press `I` to initialise. This may seem strange, but the Format option will do an extremely lengthy "Low Level Format" which is rarely needed. The same applies to the next question (soak test), so enter `N` for None, unless you have plenty of spare time!

Important Questions

The next three questions are important, and you may want to change from the default values.

Firstly, if you ever plan to boot from the drive being formatted, press `Y` when asked if you wish to make the disc bootable. There is no harm in having more than one bootable disc in your computer, so there is very little reason not to make the disc bootable.

The next question: `Do you wish to use Long Filenames` is the critical one. This selects whether the disc uses the old or new format. If you've come this far, the chances are that you will want to press `Y` to enable long filenames.

The final question is the size of the Large File Allocation Unit (LFAU). In general, you will want to accept the default value shown. The LFAU is the amount of space which even the smallest file will take on your disc. The higher the value, the more wasted space if you have lots of little files. You may find performance is very slightly better with larger LFAUs, although improved technology in RISC OS 4 will make any such performance benefit negligible.

As a rule of thumb, for drives up to about 7 or 8 Gb in size you should use a 1024 LFAU. Note that for an 8Gb drive, your computer will use about 1Mb to cache the map with this size LFAU. If this is a problem, you may wish to increase the size of the LFAU to 2048 which will halve the cache memory requirement.

It is worth saying that even by entering 2048 (ie. double the suggested value) you will still see considerably more free space when your data is copied over from an old format disc. For example, transferring 1.35Gb of data from a 1.6Gb drive (well over half of which was consumed by a PC partition and two 100+Mb Zip archives, which would not benefit from the smaller LFAU) onto a 4.2Gb drive with a 2048 LFAU resulted in a saving of over 100Mb of disc space!

Finally, you will be asked to confirm the whole thing. Do so now.

Depending on the size of the drive it will take a few seconds beforea list of the parameters being written to the drive is printed out.

Transferring Data from one drive to another

Before you begin transferring data, we strongly recommend shutting down your machine and restarting by selecting `Shutdown` from the task menu on the RISC OS 4 logo on the icon bar.

Once your machine has restarted, you can now begin the process of transferring data onto the new drive.

The big hint here is **not** to try and *move* the data from one drive to another, but *copy* it instead. Why is this?

If for any reason something goes wrong whilst transferring the data (eg. power failure or Act of God) you will still have a complete, safe, usable copy on your source disc. Secondly, if for any reason something dislikes being transferred (eg, an application which needed uninstalling, or one which doesn't like the new format disc for some obscure reason), you have a safe working copy.

When you are happy that all is working correctly from the new disc, you can either re-format or wipe the data off the backup disc, although there is much to be said for keeping that backup safe in case of accident.

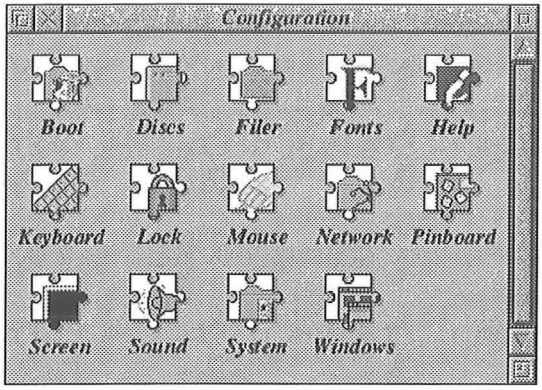
New features of RISC OS 4

New Features of RISC OS 4

RISC OS 4 has many new features and changes - some obvious and some less so. This section gives an overview of a selection of the RISC OS 4 features that you will encounter on a daily basis.

The New Configure

The new Configure tool gives you greater control over your system, making it easier for you to set up the machine to your liking. In addition, it allows 3rd party developers to add their own windows to simplify the setting up of peripherals and expansion cards.



Taking each Configure tool in turn, we shall look at the various options available to you.

To launch the Configure tool, double click on the !Boot folder on the root directory of your main hard disc.

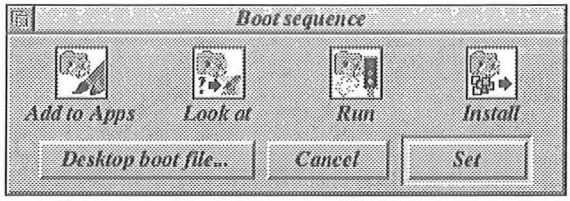
Pressing the Menu mouse button over the main window allows you to load and save the whole set of CMOS (internal to your computer) settings, to make it easier to bring back your system should it be necessary to reset it to its factory defaults.

Other options allow you run the !Help utility and reset your machine back to its factory settings by choosing the Default CMOS option.

The Boot tool

This is completely new in RISC OS 4, offering a new way to set up how your system boots up. It is different from the way things worked under previous versions of RISC OS, so it may take a little getting used to for veteran users.

The Boot tool consists of four sections:



Clicking on each button opens a window allowing you to drag in applications and directories. If you drag a directory to one of these windows, the effect will be applied to everything in that folder. **Note that you will have to reboot for changes to take effect.**

The four options are:

Add to Apps: Allows you to drag in applications or folders of applications, to add them to your Apps folder available from the Apps iconbar icon.

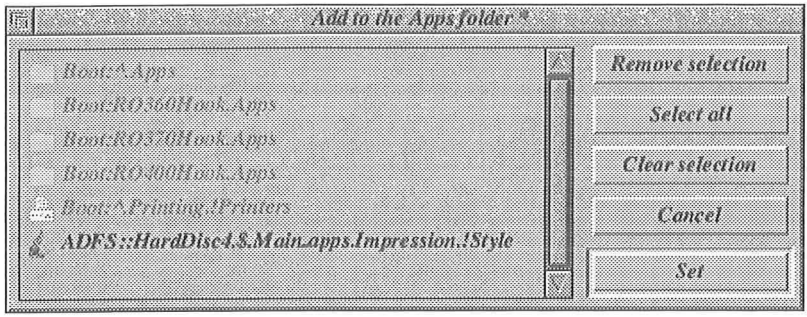
Look at: Applications and folders dragged to the `Look at` window will be "booted" when your system starts up. This means that your computer will have "seen" these applications whenever you start your computer up in future, so that documents will load into the correct programs when you double click on them.

Run: This allows you to choose which applications are automatically loaded every time you start your computer.

Install: Slightly different to the other options, this enables you to upgrade your !Boot should a new version be released by RISC OS Ltd.

Finally, the `Desktop boot file` button allows you alter your startup file manually.

Taking the Add to Apps window as an example, it works as follows:



The majority of the window is taken up by a scrolling list of applications and directories. Those shown in grey ("greyed out") are special folders or applications which your system needs. You cannot remove these.

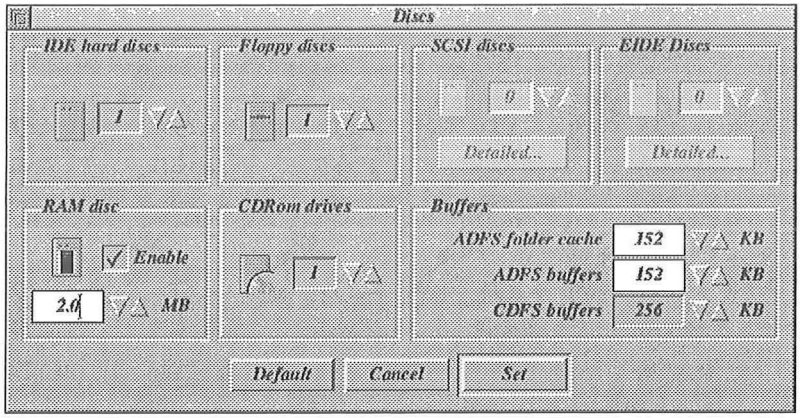
Dragging an application or folder to the window will add it to the list. In the example above, the Impression Style application has been added, in this case to the Apps folder, which you can open from the Apps icon to the left of the iconbar at the bottom of your screen. Notice that it is not in a standard place on the hard disc - in the Impression sub-directory of a folder called Main_apps. The Add to Apps utility allows us to make the !Style application appear in the Apps folder, even though it has been placed (along with its tutorial and example files) in its own folder elsewhere on the hard disc. Added applications should not be stored on floppy or CD, as the discs may not be available later.

The Style application has been added by the user and is not part of the standard system settings, so it is shown in colour. This means that you can click on it, and press the Remove selection button to remove it from your Apps folder again.

In the past, the only way to achieve this function was to place a copy of the application in one of the folders shown in grey by hand, but thanks to the Boot Configure tool, the process is much easier.

Both the Look at and Run windows work in exactly the same way. System folders/applications are shown in grey and cannot be removed, whilst applications and folders can be added/removed by the user and are shown in colour.

The Discs tool



The four panels that make up the left hand side of the window refer to the standard disc drives that come with most RISC OS computers. The SCSI and EIDE boxes to the right apply to 3rd party disc interfaces which you may or may not have added to your computer.

Taking the standard devices first, the number of IDE hard discs, floppy discs and CDROM drives applies directly to the quantity of the respective drive types that you have in your computer. A typical machine might well have one of each (indeed, if you are unsure, this will probably match your system). The IDE hard discs refer to the on-board IDE controller which drives ADFS hard discs. You would not normally have more than two such discs, and probably only one if you also have a CD drive.

RAM disc

As memory prices continue to plummet, it is not unusual to find RISC OS computers with larger quantities of memory - 32, 64 or 128Mb machines are quite common. Since RISC OS applications are, in the main, quite small in terms of RAM requirements, it can be very useful to allocate a few megabytes of memory to a RAM disc.

The RAM disc behaves like a normal hard drive, and is very quick to load and save files to making it ideal for "temporary" storage space, especially when coupled with RISC OS 4's "save to icon on the

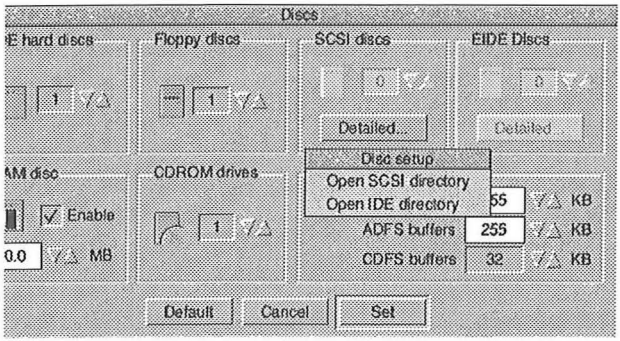
iconbar" feature (see "Changes to the Filer" below). Once you have enabled the RAM disc, you can set its size in the field below. but it has the dis-advantage that it loses its' contents when your machine is rebooted or turned off,

The SCSI and EIDE panels

The Discs tool will attempt to identify whether or not you have a supported 3rd party EIDE or SCSI interface in your machine by checking to see whether known configuration commands for the number of hard discs are supported by your machine.

Some SCSI and EIDE cards allow you to configure the number of disc icons on the iconbar, whilst others auto-detect and still others require special software supplied with them. If your card falls into the first category, then you will notice that the buttons for setting the number of that type of drive are not disabled. For example, owners of Acorn and Cumana SCSI cards can set the number of discs this way.

At the bottom of each of the SCSI and EIDE boxes is a `Detailed` setup button. This is designed to invoke a card-specific setup utility. If you press the middle mouse button over the Discs setup window, you can open the SCSI and IDE directories.



If you place the configuration tool supplied by the manufacturer of your interface card in the appropriate folder, the `Detailed` button will launch it. This provides a convenient way of setting up your computer's drives from a single place.

If you want the configuration program's for third party SCSI or EIDE cards to appear in the Configuration window then they should be copied into the

!Boot.Choices.Configure.Discs.EIDE

or the

!Boot.Choices.Configure.Discs.SCSI

directories.

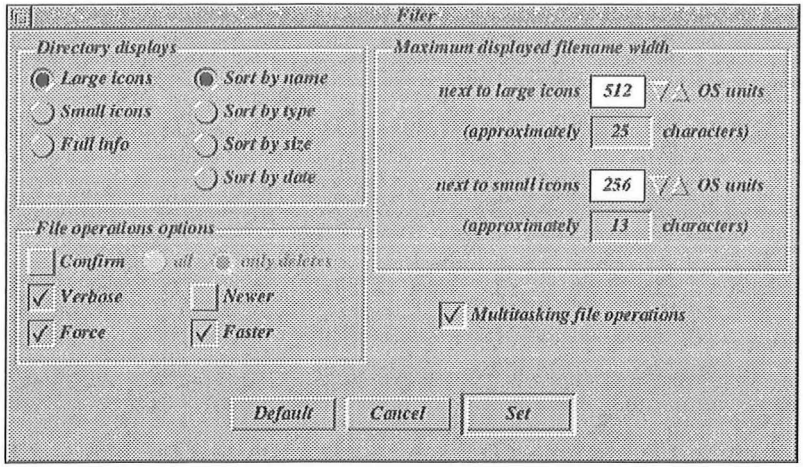
Buffers

The final section of the Discs window is the `Buffers` box. The first option - ADFS folder cache - refers to the amount of memory used to remember the contents of directories on your hard disc. This makes accessing folders much faster.

The ADFS buffers option has a similar performance benefit. Discs connected to the standard IDE interface in your computer can have key bits of data buffered in your computer's memory to speed up the accessing of files.

Finally, CDFS buffers are very similar to ADFS buffers, except that they cache data from CDs, making CD access much quicker.

The Filer tool



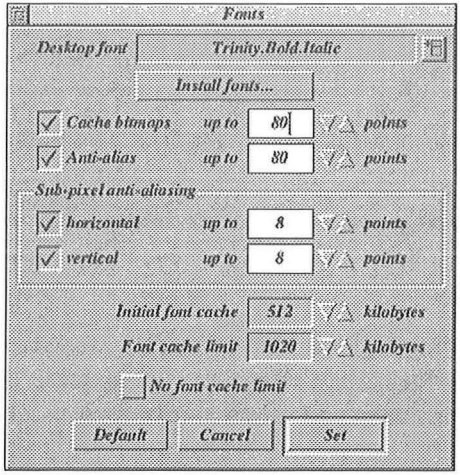
The Directory display options are similar to the old RISC OS 3.x versions. Large icons shows files with full-size icons and is the usual way of looking at files on your discs. Small icons uses quarter size icons to allow you to fit more icons on your screen, whilst Full info uses a list view to give you all the details about file size, time created and type of file. The sorting options are a matter of taste as to which you prefer. The default is to sort alphabetically by name.

Below these options are the default settings for file operations - copy, delete, move etc. You can choose whether you wish to `Confirm` all operations, only deletes or none at all. `Verbose` specifies whether a detailed window is displayed showing information on the operation in progress. `Force` specifies whether copy/move operations should always overwrite anything they are copied on top of, whilst `Newer` prevents overwriting of more recent files by older ones. `Faster` speeds up the operations by giving the system less time to multitask.

The maximum display widths for filenames sets the number of characters shown in filer windows.

Finally, if you disable multitasking file operations, you will be unable do anything during file operations, so don't disable it unless you're sure.

The Fonts tool



The Desktop font is used to display all text on windows and menus. It is very much a matter of personal preference which font you choose.

The `Cache bitmaps` and `Anti-alias` options are inter-related. You cannot anti-alias sizes above that for which you cache bitmaps. Cacheing a font causes it to be remembered at a particular size and weight in memory, making drawing much faster. Anti-aliasing causes the curved edges of fonts to "blur" slightly making them look much smoother and more elegant. Although anti-aliasing is only supposed to make a difference at point sizes up to about 40 point, the effect is still evident and pleasing at much larger sizes. Anti-aliasing has a small performance hit, but isn't significant on modern machines.

Sub-pixel anti-aliasing goes one step further than normal anti-aliasing by smoothing text together at very small font sizes. This allows kerning to appear correct in such circumstances when a single pixel is too large a measure. You should be aware that it can slow the operating system if set to a large value and is rarely needed for sizes much above 8 point.

The `initial` and `limit` values for the font cache specify how much memory is allocated to remembering fonts to speed up the drawing of them. The initial font cache will always be allocated, but as more weights are used, it may grow to the value set as the limit. Setting `No font cache limit` will allow the cache to grow as needed.

Installing new Fonts

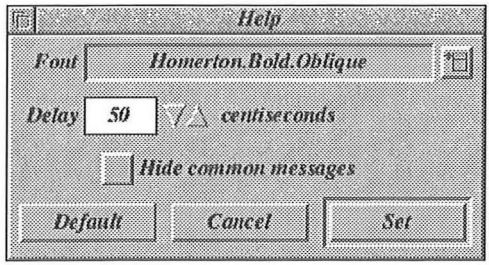
The `Install Fonts...` option MUST be used if you wish to add more fonts to your system. If you just copy them into the !Fonts directory by hand they will not be properly recognised.

The file !Boot.Resources.!Fonts.Messages1 contains a list of the fonts that have been properly installed on your machine.

If any fonts are missing then you will need to force them to be recognised by dropping the !Fonts directory itself back onto the Install Fonts window.

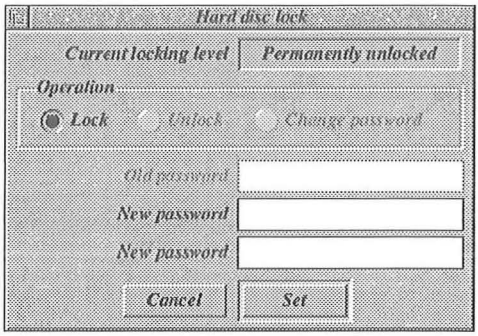
NB Installing fonts will not work with some third party font managers e.g Fabis Easy Font Pro, which must be prevented from running, before you will be able to install more fonts.

The Help tool



This tool is provided to allow you to set up the !Help context-sensitive help utility. You can choose which font is used to display help messages, how long you have to leave your pointer over things before the help is displayed, and whether or not "common" messages about windows, scrollbars and other desktop features are displayed.

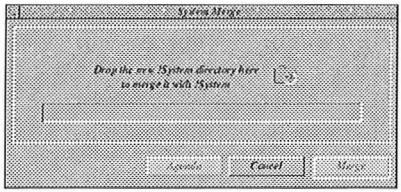
The Hard disc lock tool



This tool allows you to protect your hard disc with a password. Discs which are protected only allow read and write access to the "Public" directory. All other directories are then set as "read only". When setting a password you must provide it twice for confirmation. You can lock and unlock a disc, or change its password. The status of the disc is shown at the top of the window.

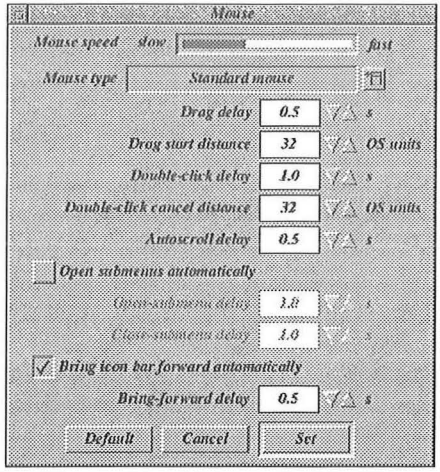
Setting the password to nothing unlocks a disc "permanently" (persistently) as opposed to for that session only, until a new password is set.

The System tool



If an application comes with its own !System folder, drag it here to update the !System folder on your hard disc.

The Mouse tool



The `Mouse Speed` icon is a slider to allow you to set how rapidly your mouse moves. At larger screen resolutions you might well want to set this to a slightly faster value in order to travel around the screen without running out of mouse mat!

For Risc PC machines, this should always be set to `Standard Mouse` unless you wish to use a cheaper serial unit. A7000 users will find that the `PS2` mouse option is selected by default, and should use that.

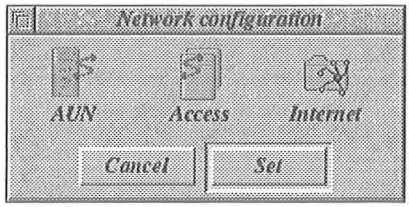
The `Drag delay` is the length of time that you have to hold your mouse button down before a drag is initiated if you don't move your mouse. The `Drag start` distance is the alternative way of initiating a drag, and determines how far you have to move your mouse to start one.

The `Double click delay` is the maximum time between clicks that is allowed to register as a double click. The `Double click cancel distance` is the movement required between the first and second click before the second click is automatically deemed to be a new click rather than the second half of a double click.

`Open submenus` automatically determines whether the computer opens sub-menus for you if you rest for a while on a menu option.

The Iconbar to front option sets how long you have to leave your pointer at the bottom of the screen before the iconbar pops to the top.

The Network tool



This Configure tool allows you to set up all aspects of inter-computer communication. It is primarily designed around local area networks (LANs) and internet access via network cards (eg through a router or other gateway). Dialup Internet access should be configured elsewhere, such as in your internet/modem logon software.

There are three separate sections - AUN Acorn Universal Networking and is designed to support Econet/`Level 4 networks`. These are often found in schools.

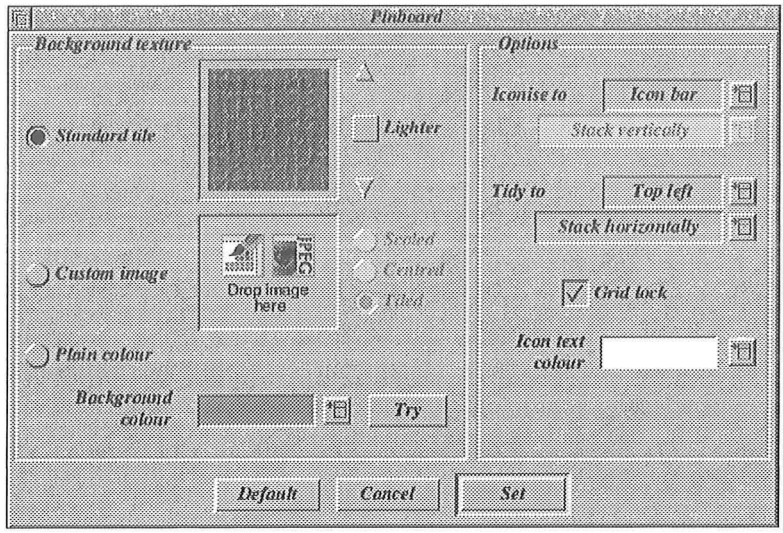
Econet is no longer supported in RISC OS 4.

Acorn Access is the peer-to-peer networking protocol used by RISC OS machines. It allows all manner of drives and printers to be shared around a local network. It is quick and easy to set up, and is the system of choice for many small RISC OS networks.

Finally, the Internet section applies to the setting up of full TCP/IP networks. This is more complex than either of the above, but is necessary if you envisage a more complex, multi-platform network, especially if you are planning network Internet access.

For more details please consult the user guide supplied with your Network Card or Internet Software.

The Pinboard tool



This window provides all the options necessary to set up your Pinboard backdrop and the behaviour of pinned items.

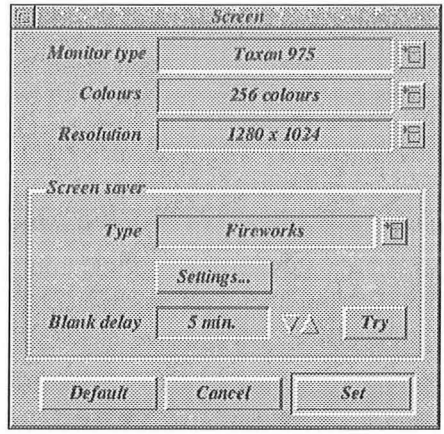
RISC OS 4 comes supplied with a range of standard "tiles" - attractive low-memory images which tile nicely to produce a clean, crisp background to the desktop. They are provided in both dark and light varieties.

Alternatively, you can provide your own Custom image, which can be centred on the backdrop, scaled to fit it, or tiled side by side, up and down. You can use both sprites and JPEGs, and if you are running ImageFS 2 it will allow the use of almost any type of image. If you plan to use a high colour image in a low colour depth mode, then you may wish to convert it down with !ChangeFSI beforehand, as this usually gives better colour rendition through dithering.

If you are short on memory, or simply want a non-intrusive background, you can specify a flat colour.

The iconise options are described later in the "Changes to the Pinboard" section. Grid lock forces pinned icons to a grid spacing, and the colour used for the text below pinned icons can also be set.

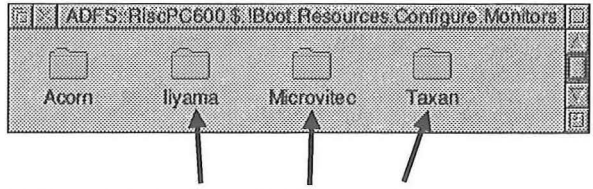
The Screen tool



The top half of this window allows the selection of monitor type, colour depth and resolution. If your monitor isn't listed, don't be afraid to use one of the other definitions, as there is nothing inherently monitor-specific in the files. However, if you are using a monitor type that doesn't match your actual display, you should refer to the documentation supplied with your monitor to make sure that you don't select a resolution which might exceed the specifications (see notes on the Display Manager later).

The default monitor definitions files (MDF's) are stored in the !Boot.Resources.Configure.Monitors.Acorn directory

New ones should be added to an appropriate directory at the same level as the Acorn directory. To create new MDF's you will need a copy of the !Makemodes application.



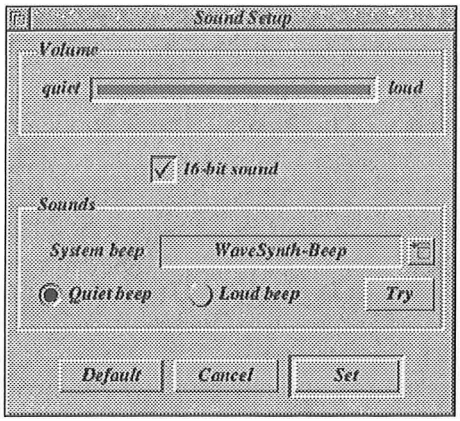
New MDF's (Monitor Definition Files) should be added into new directories

New to RISC OS 4 is a standardised Screensave protocol. This allows all manner of screen savers to be plugged into your system easily. A range of savers is supplied as standard with RISC OS 4.

Some screen savers may have options associated with them. Click the `Settings...` button to alter these.

Below this you can select the length of time taken before the screen saver kicks in. Please note that if you are running single-tasking applications (ie. those that run full screen out of the desktop) you will only see the standard "black screen" saver.

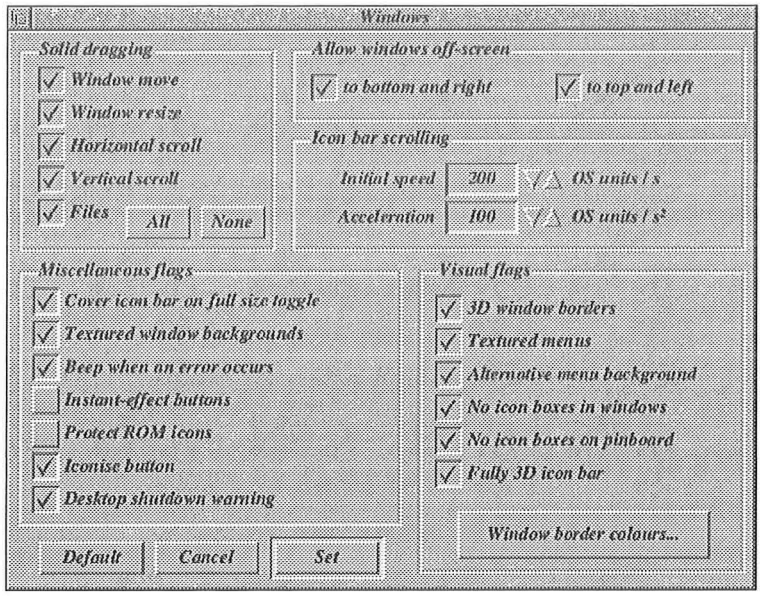
The Sound Setup tool



Since all RISC OS machines have built-in sound systems, there is very little to change here. In general RISC OS will autodetect what sound hardware is fitted to your machine.

You can set the volume of the internal sound system, and whether or not you have 16 bit sound in your machine. All A7000s have 16 bit sound, as do all Risc PCs produced since 1996. If you have one of the earlier Risc PC machines, you may have added 16 bit sound via an expansion board. Most users should select 16 bit sound by default, and only disable it if they know that they do not have 16 bit, or if they find that their computer is not making any sound at all under 16 bit. The `Sounds` box controls the system "beep" - it's voice and volume.

The Windows tool



With such a visual operating system as RISC OS 4, it is inevitable that the configuration options for the windows themselves be one of the most extensive!

Starting at the top left, the `Solid dragging` box controls which dragging options have "instant effect solid dragging" and which merely drag an outline box. The outline box requires less processing power, but all RISC OS 4 machines will give smooth solid dragging.

To the right of these options you can set which sides of the display allow windows to slide off-screen. Disabling this makes the workable area of the Desktop much smaller, but it will be much harder to lose windows!

When your iconbar becomes full, it will scroll left and right when you move the pointer to each end. The `Icon bar scrolling` settings allow you to set the scroll speed and acceleration.

Underneath these options lies a cornucopia of other visual settings:

Cover icon bar on full size toggle
Specifies whether or not windows overlap the icon bar at the bottom of the screen when you click on the toggle size (maximise) button at the top right hand corner of windows.

Textured window backgrounds
Sets whether windows have attractive marbled background or are displayed as plain grey.

Beep when an error occurs
Does what it says it does on the tin!

Instant-effect buttons
With this enabled, clicking the left mouse button over window frame icons (eg. close, send to back, scroll etc.) results in the action occurring the moment the button is depressed. With it unset, the action doesn't take place until the mouse button is released. This provides a "get out" if you accidentally click on a button you wish you hadn't (eg. close) as you can move the mouse away with the button still held down to cancel.

Protect ROM icons
Some older applications come supplied with low resolution (or dated) versions of the standard desktop sprites, and try to load them in on top of the RISC OS 4 set. With this option ticked, the standard sprites will never be replaced, protecting your desktop from unsightly low-res icons!

HOWEVER, this option must be unset if you want to softload any of your own icons to replace any of the inbuilt sprites, to replace file type icons etc.

Iconise button
With this option selected, windows will be displayed with a button to iconise them in the top right hand corner, just next to the toggle size (maximise/minimise) button.

Desktop shutdown warning
Controls whether or not an "Are you sure" warning is given when you try to shut your computer down.

3D window borders
This gives all dialogue boxes (windows without scroll bars) and menus an attractive 3D edge, making the display look much more modern. Disable this if you prefer the retro look.

Textured menus

In versions of RISC OS prior to v4, menus were displayed as flat white rectangles with thin black edges. This option applies a texture to them. It can either be the standard window backdrop or other user added textures.

Alternative menu background

Gives menus an alternative, paler texture (tile_m for techies!) which makes them look more like textured equivalents of the traditional white menus. It also distinguishes them from other windows, which is generally desirable.

No icon boxes in windows

When icons consisting of text and sprites were plotted under RISC OS 3.7 and earlier, the text was given a solid background overlaying the window background texture and could look poor if you weren't using the standard tile. This option avoids this.

No icon boxes on pinboard

This is the more visible incarnation of the `No icon` boxes option above. If you chose a pinboard backdrop which wasn't grey, little grey boxes would appear around all the text beneath the icons. This option solves the problem for the pinboard and other similar windows. Note that the only time you might *want* the grey boxes is if the text colour you have selected isn't visible with your background graphic. However, wouldn't it be easier just to change the text colour in the Pinboard setup tool?

Fully 3D icon bar

Without this option set, the 3D window borders would only be set on the top and bottom of the icon bar (because a full icon bar can scroll left and right). With it set, the left and right edges also become 3D. Which you choose is a matter of taste.

Window border colours

With this window, you can set the colours of the 3D edges of windows and menus. This can be useful if you are using your own tiles for these.

Long filenames and large numbers of files per directory

The prominent new features in RISC OS 4 are the changes to the disc formats, to allow the use of long filenames and a much larger number of files in each directory.

In order to take advantage of these features, you will need to reformat your hard disc, as described earlier in this manual, or just benefit from the features when applied to the RAM disc and floppies.

Compatibility with non-RISC OS 4 machines

The F+ disc format which is new in RISC OS 4 supports long filenames, and can also handle the shorter ones that you are used to. Machines without RISC OS 4 cannot handle discs with long filenames.

However, if you are running in a network environment, RISC OS 3 machines can both see and access discs with long filenames over Access or other network protocols, and vice versa. However if copied to a non RISC OS 4 machine they will have the filename truncated. Our experiences of running a mixed network have shown no compatibility problems when sharing data between machines using different versions of RISC OS.

RISC OS 4 is fully compatible with old-format discs, so you can plug a RISC OS 3.7 (or earlier) disc straight into a RISC OS 4 machine without problems. Indeed during testing, several machines ran entirely on old-format discs for compatibility checks.

If you wish to format a floppy disc to be compatible with a RISC OS 3.7 or earlier machine, simply select "F format" for high density discs or "E format" for low density ones. Don't use the "+" variants if you wish your discs to be accessible on all RISC OS machines.

Compatibility with applications

Much work has been done to make sure that the changes made in RISC OS 4 to support the new disc format are as compatible as possible with old software. You may find some applications (eg. the Impression family) which restrict you to 10 characters when saving, but they have no problems accessing long filename documents or running from a new format hard disc.

Changes to the Filer

There have been several improvements made to the way that the Filer works to make it more productive.

Alt-Click on a filename to alter it

If you hold down the Alt key on the keyboard and click on a filename in a filer window, a white box will appear around it, and you will be able to edit it using the cursor keys.

Saving/Dragging to disc icons

You can now save or drag a file to any of the disc icons on the iconbar, and your computer will save the file to that disc. The default is to save to the root directory, but that action be changed by setting the system variable *defaultdirectory$path.* This can be especially useful if you have a RAM disc set up, as this feature makes it an ideal temporary location for downloaded files or incomplete work.

Set Directory on the Filer menu

Pressing the Menu mouse button over a Filer window displays the Filer menu. There is a new option `Set Directory` which sets the "CSD" (Currently Selected Directory) to that folder. This is particularly helpful to programmers or people running non-desktop applications, as the CSD is always the first place the computer looks for files. In addition, many applications will save to the CSD if they aren't given a full location, making it much easier to set your "work" directory and save straight into it.

Confirm Deletes on Filer menu

On the Options sub-menu of the Filer menu is the `Confirm Deletes` setting. With this set, all copies, renames and other non-dangerous actions will be carried out without asking you for confirmation, but file deletions will prompt you before taking place.

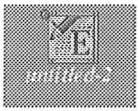
Spaces in filenames

If you want to insert a blank space into a filename, hold the `Alt` key when pressing the space bar. This will actually be a "hard space" in order to maintain compatibility, but the effect is the same.

Changes to the Pinboard

The Pinboard, used in conjunction with the Pinboard Configure tool, provides several new functions and facilities.

Iconise enhancements...



Holding down the shift key when closing a window has reduced it to an icon on the Pinboard (known as iconising) since RISC OS 3.1. However, it has always iconised to a point directly below the close icon, and the shift-close action was never the easiest one. In RISC OS 4, you can iconise to the various corners of the screen, and to the iconbar, making it much simpler to find iconised windows. You can set this in the Pinboard Configure tool or from the Pinboard menu: `Options -> Iconise windows`

In addition to this positioning, you can enable an Iconise button on all windows by setting the appropriate option in the Windows Configure tool. Whenever you click on this button, the window will be iconised.

Tidy

If you highlight a group of icons on the Pinboard, you can now use the `Tidy` option on the `Selection` menu to tidy them to a particular corner of the screen. You can also specify if they are tidied horizontally or vertically. The location you tidy to can be set via the `Options` menu. This makes it much easier to sort out your Pinboard.

Changing the pinboard text colour

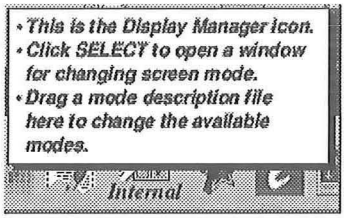
If you have a very light background selected, having the text associated with pinboard icons displayed in white can make them difficult to see. To improve visibility, RISC OS 4 allows you to set the colour used in the Pinboard Configure tool.

Single colour backdrops

Also new in RISC OS 4 are single colour backdrops. You can now choose a colour from the Pinboard Configure tool and achieve an attractive backdrop without any of the memory overheads associated with background graphics.

New !Help utility

RISC OS 4 introduces a new online help system which provides context sensitive help on icons, windows and menu. By displaying help at the pointer rather than elsewhere on the screen, it is far more convenient and easy to use.


• This is the Display Manager icon.
• Click SELECT to open a window for changing screen mode.
• Drag a mode description file here to change the available modes.
Internal

In addition, the new !Help utility allows you to disable the more common RISC OS 4 help messages, making it much less intrusive.

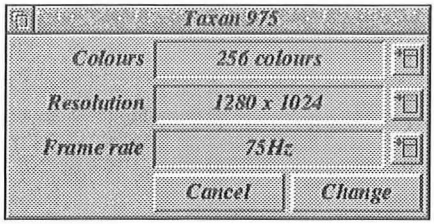
To start up the new !Help, open the Apps folder from your iconbar, and double click on !Help. You can now point to anything that you wish to receive information about. To trigger the help message, you must leave your pointer motionless for a brief (adjustable) period until the information appears.

The new !Help utility is fully compatible with all existing "helpful" applications tried.

The Display Manager

This is the screen icon second from the right hand side of the iconbar. It allows you to choose which screen resolution, colour depth and frame rate (refresh rate) you wish to run at.

Click on the icon to open the settings window.



New to RISC OS 4 is the ability to select the frame rate you wish to run your screen at via the third icon down.

There are several reasons why you might wish to change the frame rate:

- Your monitor may be struggling to display the screen at the present refresh rate.
- Your monitor may be able to handle a higher refresh rate (giving a less flickery picture) than the current setting.
- At high resolutions, you may not be able to get the maximum colour depth *and* the highest refresh rate. Sometimes dropping down the refresh rate will allow a greater number of colours to be shown without losing desktop space by switching to a lower resolution.

You will also notice that when you click the `Change` button to switch to the selected mode, the screen fades out, then in again. This is an example of one of the myriad of cosmetic changes that have been made to RISC OS 4 to make it more attractive and friendly.

Changes to CDFS

CDFS now supports Green book and White book Video CDs (MPEG discs). These were particularly common with the Philips CDi multimedia console. There have also been a variety of updates and minor improvements.

Worthy of particular note, is that CDFS now uses the MimeMap module to look up filetypes from filename extensions (this is as a secondary course of action if the standard CDFS tables don't contain a mapping). The MimeMap translation file (found in !Boot.Resources.!Internet.files) contains all manner of translation information between file extensions, filetypes and internet MIME data types.

It is intended that the MimeMap file be the single location of such mapping information, so that any application can benefit from the information stored there. This prevents the need for each application to have its own translation table.

Changes to DOSFS

In line with CDFS above, DOSFS now utilises the MimeMap module to expand its database of file extensions to filetype translations. See the information above for more detail on the MimeMap system.

Euro support

RISC OS 4 now supports the Euro symbol in all the standard ROM fonts. This gives you access to serif (Trinity), sans-serif (Homerton) and monospaced (Corpus) versions of the symbol in all the common weights. This should allow you to find a Euro symbol for most typographic requirements.

To enter a Euro symbol from the keyboard, press Alt-E for the font specific version, or Alt 164 for the standard Euro sysmbol.

New commands in Basic

To get a list of the commands now available in Basic type

HELP [from the Basic prompt.

Bundled Applications

The are a number of applications bundled with RISC OS 4.

These include :-

Vector - An advanced drawing package with many powerful features to supplement the in-built !Draw. Notable extras are the use of layers and the ability to merge paths.

Writer - A 'simple' word processor based on Easi/ Techwriter. It allows you to take advantage of outline fonts, change text size, font, colour and weight. You can also underline text and alter its alignment. Writer accepts Draw files and Sprite files for illustrating documents and can also read HTML files.

Organizer - A full PIM (personal information manager) for handling diary appointments, addresses, calendar, phone numbers, anniversaries and year planners. It can also display the date, time and free memory on the icon bar and can do almost everything that !Alarm does.

ImageFS - An automatic graphics file convertor. It allows coversion of most PC format files such as BMP, TIFF, GIF etc into Sprite files, and WMF into Drawfiles.

The above applications are installed into the Bundled Directory on the main hard disc.

Taborca - This is an add-on to !Printers which can generate Adobe Acrobat compatible PDF (Portable Document Format) files. It is limited to only generating the first 3 pages of a document.

Synth - A cut down versions of ESP's MIDI Synthesizer with piano and drum instruments. This gives you some MIDI output even if you have no MIDI hardware.

Appendices

Appendices

1. CUMANA IDE-CD and RISC OS 4 BOOT PROBLEMS

Applicable Hardware:

Risc PC 600 and Acorn or Cumana 300i Internal CD-ROM drive.

Problem:

If after fitting the new ROMs to a RiscPC 600, you lose access to the original hard drive and get

"Disc Error 21 at :4/0000000000000000." when the machine starts up.

Solution:

To get your 300i CD-ROM drive working with RISC OS 3.6, 3.7 or 4.0, you should take the following steps. Please note, these are different to the details given with the StrongARM installation guide; these instructions should be used in preference

* Start the machine up whilst holding down the Shift key.

This will prevent the offending driver from loading from the Boot sequence.

* Keep holding down the Shift key and open directories down to the !Boot.Choices.Boot.Predesk directory on your hard disc.

* Still keep holding down the Shift key and double-click on !BootIDECD which should be inside the !Boot.Choices.Boot.Predesk directory.

A window will open showing the contents of the application.

* In this window, find the module called iscld_2.

Copy this out into the PreDesk directory.

* You can now delete the remainder of the !BootIDECD application.
* Now press the F12 key and type *UnPlug CDFSSoftATAPI
* Reboot your computer by pressing the Return key twice and then pressing Ctrl and Break.
* Double-click on !Boot to run the configure application
* Go into the Discs option and set the number of CD-ROM drives to 1 (or however many CD-ROM drives you have attached)

NB islcd_2 is the filename for the module CDFSSoftISLCD.

The latest version of this module is 1.06 - you can check which version you have by pressing F12 and typing *Help CDFSSoftISLCD. If your module is very far out of date you can download version 1.06 of the module from :-

`http://www.cumana.demon.co.uk/bin/islcd.bin`

2. Common RISC OS 4 problems

Due to changes between the bevahiour of certain areas of RISC OS 4 compared with older versions of RISC OS you may encounter some of the following problems:-

Problem: Error "File - colour not found" during startup sequence

Explanation: The Boot configuration now has options to set the background screen colour and other options for the Pinboard. Sometimes after you have altered the Pinboard settings, the old configuration file is not completely over-written and you get left with a line with just the command "-colour" and no other commands in it.

Solution: Delete the file !Boot.Choices.Boot.Tasks.PinSetup and then set the required Pinboard settings via the Boot configuration window.

Problem: My machine has started up and suddenly started giving a Data Abort @ xxxxxxxxxx error message.

Explanation: You probably installed a piece of software which has written incorrect values to CMOS memory. Changed CMOS settings don't always get noticed until the machine is reset or switched off.

Solution: Switch the computer off and then switch back on with the DELETE key held down to restore the CMOS to its default settings. You will then need to reset the number of CD-ROM drives and any other options.

The time and date should be unaffected by a DELETE power on.

Problem: When I switch the machine on I only get a 640 x 480 screen display, instead of the usual screen mode.

Explanation: This usually caused by an error in the Boot sequence, typically in a Pinboard file, or if you have copied over some part of your old Boot sequence or Desktop Boot file which is not compatible with RISC OS 4.

Solution: First check that the Pinboard file is of the new format. The Pinboard file is stored in !Boot.Choices.Boot.Tasks.Pinboard

Each line should start with the command XPin. If they start with the command Pin, they are still in the old format. Check that the Pinboard has all the files you want stuck to it then click with the Menu key (middle mouse key) over an empty area of the backdrop and select the `Save` option. This will write the Pinboard out in the new format. Reboot the machine now and see if it starts up OK.

Problem: I have tried the above, but the screen display is still wrong and when I try to change it I get the Error message - File system ADFS: must be given a filename.

Explanation: This error message occurs to show you that the Boot sequence has not completed properly and the Configuration program doesn't know where to save its choices.

Solution: You will have to manually check any patches or changes you have made to the computer configuration since it last started correctly. If you are unable to find the errant command, the quickest solution is to rename the current !Boot directory to !OldBoot and then copy a clean !Boot from the DiscImage.Boot archive on the RISC OS 4 installation CD.

Problem: When I start up I get programs trying to run twice.

Explanation: This is usually due to you having used the new Boot sequence configuration tool to run applications at startup and then also used the Save Boot file option from the Task window menu on the icon bar.

Solution: It is preferable to use the new Boot sequence configuration tool as opposed to setting the Save Boot file option. You will need to manually delete the file !Boot.Choices.Boot.Tasks.!Boot Later versions of RISC OS 4 will move over to using the Save Boot file option to purely save the state of open filer windows, and other options not set elsewhere.

Problem: I can no longer access a Photo-CD or other Mode 2 CD.

Explanation: The inbuilt CDFS driver does not correctly identify these types of discs with certain makes of CD-ROM drive.

Solution: There is a softloadable version of the old RISC OS 3.7 CDFSSoftATAPI module available on the RISC OS Web Site at http://www.riscos.com/devsupport/public/index.htm

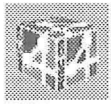
Problem: I can't run the Acorn Advance Spreadsheet anymore.

Explanation: Update needed for RISC OS 4 compatibility

Solution: There is an update available from Clares Website at http://www.claresmicro.com/

Shutting down your system

When you select Shutdown from the Task menu by clicking over the icon to the far right of your screen (or press Ctrl-Shift F12), RISC OS 4 will ask you if you are sure you wish to shut down your system. This can help prevent accidents with unsaved work, or provide a quick means of cancelling the action if you meant to select a different option.



This behaviour can be enabled/disabled via the Window Configure tool.

Millennium compliance

As supplied, RISC OS 4 is fully year 2000 (Millennium/Y2K) compliant. We have had to change one system call since RISC OS 3.7 to conform to Y2K requirements.

Some applications (particularly internet suites, in our experience) may show a "This application is not Millennium compliant" warning as a result of this change, if they are using the system call in question. You should contact the application's manufacturer if you receive such messages, and request an update.

If for some reason you cannot obtain an update for your application, don't worry. The CD supplied with RISC OS 4 includes a module which resets this system call back to its old behaviour. The module can be found in the Year2000 folder on the CD. Note however, that your system will not be completely Y2K compliant if you use this fix. The best place to put the module is in your !Boot.Choices.Boot.Predesk folder.

RISC OS 4 Year 2000 Conformity

A Definition of Year 2000 conformity requirements

The Definition

Year 2000 conformity shall mean that neither performance nor functionality is affected by dates prior to, during and after the year 2000.

In particular:

Rule 1. No value for current date will cause any interruption in operation.

Rule 2. Date-based functionality must behave consistently for dates prior to, during and after year 2000.

Rule 3. In all interfaces and data storage, the century in any date must be specified either explicitly or by unambiguous algorithms or inferencing rules.

Rule 4. Year 2000 must be recognised as a leap year.

Amplification of the Definition and Rules

General Explanation

Problems can arise from some means of representing dates in computer equipment and products and from date-logic embedded in purchased goods or services, as the year 2000 approaches and during and after that year. As a result, equipment or products, including embedded control logic, may fail completely, malfunction or cause data to be corrupted.

To avoid such problems, organisations must check, and modify if necessary, internally produced equipment and products and similarly check externally supplied equipment and products with their suppliers. The purpose of this document is to allow such checks to be made on a basis of common understanding.

Where checks are made with external suppliers, care should be taken to distinguish between claims of conformity and the ability to demonstrate conformity.

Rule 1.

1.1 This rule is sometimes known as general integrity.

1.2 If this requirement is satisfied, roll-over between all significant time demarcations (e.g. days, months, years, centuries) will be performed correctly.

1.3 Current date means today's date as known to the equipment or product.

Rule 2.

2.1 This rule is sometimes known as date integrity.

2.2 This rule means that all equipment and products must calculate, manipulate and represent dates correctly for the purposes for which they were intended.

2.3 The meaning of functionality includes both processes and the results of those processes.

2.4 If desired, a reference point for date values and calculations may be added by organisations; e.g. as defined by the Gregorian calendar.

2.5 No equipment or product shall use particular date values for special meanings; e.g. "99" to signify "no end value" or "end of file" or "00" to mean "not applicable" or "beginning of file".

Rule 3.

3.1 This rule is sometimes known as explicit/implicit century.

3.2 It covers two general approaches:

(a) explicit representation of the year in dates: e.g. by using four digits or by including a century indicator. In this case, a reference may be inserted (e.g. 4-digit years as allowed by ISO standard 8601:1988) and it may be necessary to allow for exceptions where domain-specific standards should have precedence .e.g. standards relating to Electronic Data Interchange, Automatic Teller Machines or Bankers Automated Clearing Services

(b) the use of inferencing rules: e.g. two digit years with a greater value than 50 imply 19xx, those with a value equal to or less than 50 imply 20xx. Rules for century inferencing as a whole must apply to all contexts in which the date is used, although different inferencing rules may apply to different data sets.

General Notes

For Rules 1 and 2 in particular, organisations may wish to specify allowable ranges for values of current date and dates to be manipulated. The ranges may relate to one or more of the feasible life-span of equipment or products or the span of dates required to be represented by the organisation's business processes. Tests for specifically critical dates may also be added (e.g. for leap years, end of year, etc). Organisations may wish to append additional material in support of local requirements.

Where the term century is used, clear distinction should be made between the "value" denoting the century (e.g. 20th) and its representation in dates (e.g. 19xx); similarly, 21st and 20xx.

This definition of Year 2000 conformity has been produced with the permission of the authors, the British Standards Institution. It was produced by the BSI committee BDD/1/-/3 in response to demand from UK industry, commerce and the public sector.

RISCOS Ltd Statement of Year 2000 Conformity

Introduction

This document describes the degree of conformity of the RISC OS components listed in Schedule 1 to the BSI document DISC PD2000-1, "A Definition of Year 2000 Conformity Requirements". It is intended to be read in conjunction with said BSI document.

Rule 1 Compliance

The components listed in Schedule 1 are conformant to the General Integrity rules 1.1, 1.2 and 1.3 provided that:

* The "current date" is defined as today's date in the Gregorian calendar and no other calendar.

* "Today's date" falls in the range detailed in the Rule 2 Compliance note below.

Rule 2 Compliance

The components listed in Schedule 1 are conformant to the Date Integrity rules 2.1 through 2.5 inclusive subject to the following limitations:

The baseline reference point for date compliance is the date of adoption of the Gregorian calendar or Gregorian January 1st 1900 AD, whichever is the later. In the case of localisation to other territories which adopted the Gregorian calendar on a date other than the date of the UK adoption of the Gregorian calendar, the baseline reference point for date correctness should be taken as the Gregorian date in that locale on which the Gregorian calendar was last adopted (this takes into account those territories which adopted the Gregorian calendar, renounced it, and then later re-adopted it).

For the systems described in Schedule 1 only the UK territory is officially supported, although unofficial alternative territory definitions exist.

In reference to the General Notes section of the BSI document, we declare a date ceiling relating to the projected feasible lifespan of the equipment. Dates will cease to be represented correctly in the Gregorian year 2248 AD, hence the chosen declared ceiling for correct date representation is Gregorian December 31st, 2247 AD.

In Rule 2.2, calculation, manipulation and representation of dates is only guaranteed conformant for Gregorian dates in the range above (subject to the Additional Notes below).

In Rule 2.3, only the ROM-based OS software and system hardware detailed in Schedule 1 is guaranteed to represent process results in a compliant manner (subject to the Additional Notes below).

Rule 3 Compliance

The components listed in Schedule 1 are conformant to the Explicit / Implicit Century rules 3.1 and 3.2 subject to the Additional Notes below. All components listed in Schedule 1 store the year in a 4-digit format. Similarly, files written to filing systems which intrinsically support a four year-digit file datestamping system (such as Acorn ADFS) and for which suitable interfacing software (such as RISC OS FileCore) exists will have their datestamp recorded with a four-digit year component.

It is possible to specify years in two-digit form when passing arguments to the system calls SWI "Territory_ConvertTimeStringToOrdinals" (with reason codes 2 and 3) and SWI "OS_Word",15 (with reason codes 15 and 24, which specify that the operation to be performed is a write to CMOS); in the case of these specific calls, dates supplied as arguments and which contain a two-digit year field are treated as follows:

0<year<65: 2000 is added (ie 01-Jan-44 is treated as 01-Jan-2044)

67<year<99: 1900 is added (ie 01-Jan-94 is treated as 01-Jan-1994)

The changeover point below which 2000 is added and above which 1900 is added is 26-Jan-66.00:00:00.

Although this two-to-four year digit conversion metric works consistently as detailed above, RISCOS Ltd recommends that years are described in full four-digit form wherever possible.

Rule 4 Compliance

The components listed in Schedule 1 are conformant to the 2000-is-a-leap-year rule. To comply with the range set in Rule 2, they also recognise 2100 AD and 2200 AD as not being leap years.

Additional Notes

In the case of Rule 2.2, no recommendations are made for the behaviour of the system clock and the recovery of the real time following power failure in both the main power supply and the battery which powers the realtime clock / CMOS chip during periods when the main power is normally switched off. Should both main and backup power to the real time clock so fail, or CMOS bytes 128 and 129 become corrupted, the clock will be in an indeterminate state when the main power is reinstated; it is very unlikely to retain the correct real time. In this case, the time will need to be reset manually by the user, using commands provided in the ROM images detailed in Schedule 1.

Schedule 1

RISC OS 4 ROM image and ARM-based hardware platforms originally designed by Acorn Computers Ltd and licensed by and further developed by RISCOS Ltd to run, and running, same.

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